

Appn. No. 10/031,160
Amendment
Reply to Office Action dated July 23, 2003

Docket No. 304-777

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 1. (Currently amended) A detachable sealing system for media-carrying parts comprising:
 - 3 a seal adjacent to a wall of a media-carrying area, which seals the sealing system when the parts are braced against one another,
 - 5 wherein the parts have mutually precisely complimentary sealing surfaces having cross-sections with a mutually complementary S-shaped profile, which sealing surfaces are directly pressed onto one another to form a clearance-free seal at a contact surface,
 - 8 and
 - 9 wherein the contact surface between the sealing surfaces is limited to a narrow area directly adjacent to the media-carrying area, the contact surface having a width of 1/5,000 to 1/50 of a nominal width of the sealing system.
- 1 2. (Currently amended) The sealing system according to Claim [[1]] 22, wherein the contact surface has a width of 1/5,000 to 1/50 of a nominal width of the sealing system.
- 1 3. (Currently amended) The sealing system according to claim 1, wherein the contact surface is loaded with a specific sealing pressure, which is only in the an elastic deformation range of a material of which the parts consist.

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1 4. (Currently amended) The sealing system according to claim 1, wherein in
2 addition to the sealing surfaces have there is a mutual guidance transverse to the
3 media area wall.

1 5. (Currently amended) The sealing system according to claim [[1]] 22,
2 wherein the sealing surfaces have a cross-section with a mutually complimentary
3 profile.

1 6. (Previously presented) The sealing system according to claim 1, wherein the
2 sealing surfaces are designed in such a way that a specific sealing pressure decreases
3 from an intersection line of a sealing gap between the sealing surfaces with the
4 media-carrying area wall.

1 7. (Previously presented) The sealing system according to claim 1, wherein
2 guide sections are provided on both parts, the guide sections situated transversely to and
3 spaced from the sealing surfaces wherein, for pre-centering of the two parts, the guide
4 sections have insertion bevels for bringing the two parts together, and a separating gap is
5 formed between the guide sections for aligning the two parts before the sealing surfaces
6 are pressed together.

1 8. (Previously presented) The sealing system according to claim 1, wherein the
2 media-carrying area walls of both parts are truly aligned.

1 9. (Previously presented) The sealing system according to claim 1, wherein,
2 adjacent to the media-carrying area wall, the sealing surface of one of the parts has a

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3 sealing lip projecting towards the other part and which is received in a corresponding
4 half-recess on the sealing surface of the other part.

1 10. (Previously presented) The sealing system according to claim 3, wherein the
2 sealing pressure is predetermined by a stop provided by a clamping device.

1 11. (Currently amended) The sealing system according to claim 1, further
2 comprising stop faces between the parts, which form a clearance between the parts
3 before bracing the parts together, whose width is sufficiently large that on bracing the
4 sealing system up-to-the closing of the clearance, a sealing predetermined pressure is
5 built up by the elastic deformation of the parts.

1 12. (Previously presented) The sealing system according to claim 1, further
2 comprising an elastically deformable portion of the parts interposed between a clamping
3 device and the sealing surfaces.

1 13. (Previously presented) The sealing system according to claim 1, wherein the
2 sealing system is a joint connection between two media-carrying parts.

1 14. (Previously presented) The sealing system according to claim 1, wherein the
2 parts are made from an equally hard material.

1 15. (Previously presented) A method for the manufacture of a sealing system
2 according to claim 1, wherein the sealing surfaces are produced by profile precision
3 turning by means of mutually complimentary profile cutting edges.

1 16. (Previously presented) The sealing system according to claim 1, provided for
2 aseptic applications.

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1 17. (Previously presented) The sealing system according to claim 2, wherein the
2 contact surface has a width of between 0.01 and 1 mm.

1 18. (Previously presented) The sealing system according to claim 3, wherein the
2 specific sealing pressure is in the range of 20% to 80% of the yield point of the material
3 forming the parts.

1 19. (Previously presented) The sealing system according to claim 6, wherein
2 surface portions of the sealing surfaces are provided as reserve sealing surfaces
3 adjacent to the contact surface, and which have a complimentary design.

1 20. (Previously presented) The sealing system according to claim 19, wherein an
2 annular clearance with a size of 1/15,000 to 1/500 of a nominal width of the sealing
3 system is provided between the reserve sealing surfaces.

1 21. (Previously presented) The sealing system according to claim 11, wherein the
2 clearance with is 1/15,000 to 1/100 of a nominal width of the sealing system.

1 22. (New) A detachable sealing system for media-carrying parts
2 comprising:
3 a seal adjacent to a wall of a media-carrying area, which seals the sealing system
4 when the parts are braced against one another,
5 wherein the parts have mutually precisely complimentary sealing surfaces which
6 are directly pressed onto one another to form a clearance-free seal at a contact surface,
7 wherein the contact surface between the sealing surfaces is limited to a narrow
8 area directly adjacent to the media-carrying area,

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9 wherein guide sections are provided on both parts, the guide sections situated
10 transversely to and spaced from the sealing surfaces, and

11 wherein, for pre-centering of the two parts, the guide sections have at least one
12 insertion bevel for bringing the two parts together, and a separating gap is formed
13 between the guide sections for aligning the two parts before the sealing surfaces are
14 pressed together,

15 the sealing surfaces having a mutual guidance transverse to the media area walls
16 and being, when pressed together, accurately fitting radially centered to each other,

17 whereby the media-carrying area walls of both parts are truly aligned.

1 23. (New) A detachable sealing system for media-carrying parts
2 comprising:

3 a seal adjacent to a wall of a media-carrying area, which seals the sealing system
4 when the parts are braced against one another,

5 wherein the parts have mutually precisely complimentary sealing surfaces having
6 cross-sections with a mutually complementary S-shaped profile, which sealing surfaces
7 are directly pressed with a predetermined specific sealing pressure onto one another to
8 form a clearance-free seal at a contact surface,

9 wherein the contact surface between the sealing surfaces is limited to a narrow
10 area directly adjacent to the media-carrying area, and

11 further comprising reserve sealing surfaces having a curvature directly adjoining
12 the S-shaped sealing surface profile and being complementary on both parts,

13 the reserve sealing surfaces being multiply wider than the sealing surfaces and
14 the sealing surfaces and the reserve sealing surfaces are designed in such a way that at
15 the reserve sealing surface, after bracing, the specific sealing pressure decreases with
16 the radial distance from the contact surface.

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1 24. (New) A detachable sealing system for media-carrying parts
2 comprising:

3 a seal adjacent to a wall of a media-carrying area, which seals the sealing system
4 when the parts are braced against one another,

5 wherein the parts have mutually precisely complimentary sealing surfaces which
6 are directly pressed onto one another to form a clearance-free seal at a contact surface,
7 and

8 wherein the contact surface between the sealing surfaces is limited to a narrow
9 area directly adjacent to the media-carrying area.

10 further comprising stop faces between the parts, which form a clearance between
11 the parts before bracing the parts together, the clearance being sufficiently large that on
12 bracing the sealing system up to closing of the clearance, a predetermined sealing
13 pressure is built up by only elastic deformation of the parts.

1 25. (New) A detachable sealing system for media-carrying parts
2 comprising:

3 a seal adjacent to a wall of a media-carrying area, which seals the sealing system
4 when the parts are braced against one another,

5 wherein the parts have mutually precisely complimentary sealing surfaces having
6 cross-sections with a mutually complementary S-shaped profile, which sealing surfaces
7 are directly pressed onto one another to form a clearance-free seal at a contact surface,
8 and

9 wherein the contact surface between the sealing surfaces is limited to a narrow
10 area directly adjacent to the media-carrying area, the contact surface having a width of
11 between 0.01 and 1 mm.

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1 26. (New) A detachable sealing system for media-carrying parts
2 comprising:
3 a seal adjacent to a wall of a media-carrying area, which seals the sealing system
4 when the parts are braced against one another,
5 wherein the parts have mutually precisely complimentary sealing surfaces having
6 cross-sections with a mutually complementary S-shaped profile, which sealing surfaces
7 are directly pressed onto one another to form a clearance-free seal at a contact surface,
8 wherein the contact surface between the sealing surfaces is limited to a narrow
9 area directly adjacent to the media-carrying area, the contact surface and having a width
10 of 1/5,000 to 1/50 of a nominal width of the sealing system, and
11 wherein, for pre-centering of the two parts, the guide sections have at least one
12 insertion bevel for bringing the two parts together, and a separating gap is formed
13 between the guide sections for aligning the two parts before the sealing surfaces are
14 pressed together,
15 the sealing surfaces having a mutual guidance transverse to the media area walls
16 and being, when pressed together, accurately fitting radially centered to each other,
17 whereby the media-carrying area walls of both parts are truly aligned,
18 further comprising stop faces between the parts, which form a clearance between
19 the parts before bracing the parts together, whose width is sufficiently large that on
20 bracing the sealing system up to the closing of the clearance, a predetermined sealing
21 pressure is built up by only plastic deformation of the parts.